THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DONALD C. PRICE, RICHARD M. WEBER, GARY J. SCHWARTZ
JOSEPH McDANIEL and JOSE' L. LAGE

Appeal No. 97-2414
Application 08/417,303[1]

ON BRIEF

Before ABRAMS, FRANKFORT and CRAWFORD, Administrative Patent Judges.

CRAWFORD, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 1 through 19 as amended subsequent to the final rejection in a paper filed August 15, 1996 (Paper No.

[1]Application for patent filed April 5, 1995.

5). Claims 1 through 19 are all of the claims pending in the application.

Appellants' invention relates to a cold plate for use in a thermal management system and to a method of thermal management using said cold plate. Independent claims 1 and 17 are represen-tative of the subject matter on appeal and a copy of those claims appears in the Appendix to appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Valyi	3,396,782	Aug. 13, 1968
Chao-Fan Chu et al. (Chao-Fan Chu)	5,170,319	Dec. 08, 1992
Suzumura[2] (Japanese Kokai)	1-247991	Oct. 03, 1989

Claims 1, 4, 7, 8, 12, 13, 17 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Chao-Fan Chu in view of Valyi. On pages 4 and 5 of the final rejection, the

[2] Our understanding of this foreign language document is based on a translation prepared for the U.S. Patent and Trademark Office. A copy of that translation is attached to this decision.

examiner has taken the position that Chao-Fan Chu discloses the invention as claimed except that it does not disclose a porous metallic matrix filling the fluid passageways therein. The examiner goes on to indicate that

> Valyi teaches a porous metal matrix 177 filling a fluid passage in a cold plate (col. 1, line 55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the passages of Chao-Fan Chu et al. for the metal matrix of Valyi in order to have an equal flow rate through the fluid passage (cot. [sic, col.] 1, lines 45-48).

Claims 2, 5, 9, 14 and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Chao-Fan Chu in view of Valyi as applied above, and further in view of Suzumura.

Claims 3, 6, 11 and 16 also stand rejected under 35 U.S.C. § 103 as being unpatentable over Chao-Fan Chu in view of Valyi as applied above, and further in view of Suzumura.

Claims 10 and 15 also stand rejected under 35 U.S.C. § 103 as being unpatentable over Chao-Fan Chu in view of Valyi.

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being

anticipated by Valyi. On page 3 of the examiner's answer, the examiner explains this new ground of rejection thusly:

> Valyi discloses a cold plate comprising a plurality of fluid passages 175 (col. 6, lines 3-13) having a common cooling fluid inlet region 179 and a common cooling fluid outlet region 178 and a metallic porous matrix 177 filling each of the fluid passages between the fluid inlet region and the fluid outlet region to maintain a uniform pressure differential (col. 1, lines 48+) across each of the passages.

On page 2 of Paper No. 11 (Response to the Reply Brief), the examiner has taken the somewhat inconsistent position that

> In response to whether it is clear that Valyi discloses fluid passages having a common inlet and outlet, it is the examiners position that the reference clearly discloses passages 175 and a common inlet 178 and a common outlet 179.
>
> In response to the passages being filled, it is the examiners position that the Valyi reference discloses the passages being filled with the porous material, since the fluid must enter the porous metal matrix for the device of Valyi to be operable, and it can only enter the porous metal matrix if the passages are in fluid communication with the porus metal matrix.

Rather than reiterate the examiner's full statement of the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding those rejections, we make reference to the examiner's answer (Paper No. 9, mailed December 4, 1996) and the "Response to Reply

Brief" (Paper No. 11, mailed January 28, 1997) for the examiner's reasoning in support of the above-noted rejections, and to appellants' brief (Paper No. 8, filed September 10, 1996) and supplemental reply briefs (Paper Nos. 10 and 12) for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to

the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determinations which follow.

Turning first to the examiner's rejection of claim 1 under 35 U.S.C. § 102(b), we share appellants' view as expressed on pages 2 and 3 of Paper No. 12 that Valyi does not teach or suggest "a metallic porous matrix filling each [of a plurality] of the fluid passages between said fluid inlet region and said fluid outlet region" as set forth in

appellants' claim 1 on appeal. The examiner's position as stated on page 2 of Paper No. 11 that the passages in Valyi Figure 6 are the channels (175) and that such channels/passages are "filled" with the porous material is somewhat incomprehensible given the clear disclosure in Valyi (col. 6, lines 3-13) that the channels (175) are provided "between" the porous component (177) and the solid component (176) and the clear showing in Figure 6 of Valyi that the channels (175) are open channels/passageways allowing communication between the manifold channel (178) and the porous matrix material (177) of the burner/heating unit therein. Likewise, the examiner's position that Valyi includes "a common

outlet 179" (Paper No. 11, page 2) is clearly erroneous given that Valyi expressly discloses (col. 6, lines 3-13) that the element (179) is a rod which acts as a valve means in the burner unit therein that may be manually shifted by the handle (180) to open and close gas supply ports to the channels (175). For these reasons, we will not sustain the examiner's

rejection of claim 1 on appeal under 35 U.S.C. § 102(b) as being anticipated by Valyi.

We next review the examiner's rejection of claims 1, 4, 7, 8, 12, 13, 17 and 18 under 35 U.S.C. § 103 as being unpatentable over Chao-Fan Chu in view of Valyi. In this instance, we find the examiner's explanation of the rejection in the final rejection (incorporated into the answer by reference on page 3 of the examiner's answer) to be somewhat unclear. On page 5 of the final rejection, the examiner has taken the position that it would have been obvious to one of ordinary skill in the art at the time appellants' invention was made "to substitute the passages of Chao-Fan Chu et al for the metal matrix material [177] of Valyi in order [sic] have an equal flow rate through the fluid passage." Given the disclosure in Valyi at column 5, line 46+ that the porous matrix material (177) therein will have gas

supplied thereto and act to provide heat over a large area of the burner, we find the examiner's proposed substitution of the passages of Chao-Fan Chu for the porous matrix material of

Valyi to be entirely without merit. Moreover, we note, as appellants have, that such a modification would not result in a "cold plate" or "cold plate system" as set forth in appellants' independent claims 1 and 7 on appeal, or teach or suggest a method as set forth in independent claim 17 on appeal.

In addition, contrary to the examiner's statements on pages 4-5 of the answer, when we consider the collective teachings of Chao-Fan Chu and Valyi, we find nothing therein which would have been suggestive to one of ordinary skill in the art of providing the passages/channels (e.g., 1704 of Fig. 17) of Chao-Fan Chu with a metallic porous matrix like that seen in Valyi at (177).

In our opinion, the examiner's above position is based on impermissible hindsight gleaned from appellants' own disclosure and not from any fair teaching or suggestion found in the applied patents themselves. Absent the disclosure of the present application, it is our opinion that one of ordinary skill in the art would not have been motivated by the teachings of the applied

prior art to modify the integrated cooling structure of Chao-Fan Chu in the manner urged by the examiner so as to arrive at the subject matter set forth in appellants' independent claims 1, 7 and 17 on appeal. Thus, the examiner's rejection of appellants' claims 1, 4, 7, 8, 12, 13, 17 and 18 under 35 U.S.C. § 103 as being unpatentable over Chao-Fan Chu in view of Valyi will not be sustained.

We have also reviewed the Japanese patent to Suzumura applied by the examiner in the § 103 rejection of dependent claims 2, 5, 9, 14 and 19. However, while the examiner has relied upon this reference to teach an aluminum metallic porous material, we note that Valyi (col. 3, lines 3-6) already indicates that the porous material therein may be formed of aluminum. Thus, in this regard, we find Suzumura to be merely surplusage. Accordingly, the examiner's rejection of claims 2, 5, 9, 14 and 19 on appeal under 35 U.S.C. § 103 will likewise not be sustained.[3]

[3] However, we strongly suggest that both the examiner and appellants review the translation of Suzumura, particularly as it relates to using a metallic porous matrix material (e.g., 30 of Figures 3 and 4) in the passages

With respect to the examiner's rejections of dependent claims 3, 6, 10, 11, 15 and 16 under 35 U.S.C. § 103 relying on obvious design choice, we agree with appellants' position as set forth on pages 11-14 of the brief, and for those additional reasons will not sustain the examiner's rejections of claims 3, 6, 10, 11, 15 and 16.

As should be apparent from the foregoing, the decision of the examiner rejecting claims 1 through 19 of the present application is reversed.

REVERSED

NEAL E. ABRAMS Administrative Patent Judge	)	
CHARLES E. FRANKFORT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES

of a heat exchanger (perhaps one like that of Chao-Fan Chu, Figure 17).

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MURRIEL E. CRAWFORD)
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